

#### **Our Mission Continues**

We are proud to present once again our annual water quality report covering all testing performed between January 1 and December 31, 2014. Most notably, last year marked the 40th anniversary of the Safe Drinking Water Act (SDWA). This rule was created to protect public health by regulating the nation's drinking water supply. We celebrate this milestone as we continue to manage our water system with a mission to deliver the best quality drinking water. By striving to meet the requirements of SDWA, we are ensuring a future of healthy, clean drinking water for years to come.

Please let us know if you ever have any questions or concerns about your water.

### Where Does My Water Come From?

The City of Kingman water service area covers more than 70 square miles. Within this water service boundary, there are 15 active wells, 13 storage tanks (13.15 million gallons of storage), and five booster stations. Approximately 8,000 acre feet (2,537,322,573 gallons) of water is produced each year. The Kingman municipal water system provides service to all areas within the Kingman city limits, as well as several surrounding areas in Kingman that are

outside of the city limits. All of the water in our system is pumped from deep groundwater wells. The Hualapai Basin Aquifer (think of an aquifer as an underground lake) is to the north of Kingman and provides the majority of our water.

Downtown area wells pump from the Sacramento Basin Aquifer, which extends south of Kingman. The Hualapai Basin Aquifer has 11 active wells with a depth to ground water over 600 feet. The downtown area has four active wells with a depth to ground water at approximately 140 feet.

#### Substances That Could Be in Water

To ensure that tap water is safe to drink, Arizona Department of Environmental Quality prescribes regulations limiting the amount of certain contaminants in water provided by public water systems. U.S. Food and Drug Administration regulations establish limits for contaminants in bottled water. Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of these contaminants does not necessarily indicate that the water poses a health risk.

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals, in some cases, radioactive material; and substances resulting from the presence of animals or from human activity. Contaminants that may be present in source water include:

**Microbial Contaminants**, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, or wildlife;

**Inorganic Contaminants**, such as salts and metals, which can be naturally occurring or may result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming;

**Pesticides and Herbicides**, which may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses;

**Organic Chemical Contaminants**, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and may also come from gas stations, urban stormwater runoff, and septic systems;

**Radioactive Contaminants**, which can be naturally occurring or may be the result of oil and gas production and mining activities.

More information about contaminants in tap water and potential health effects can be obtained by calling the Environmental Protection Agency's Safe Drinking Water Hotline at (800) 426-4791 or visit online at www.epa.gov/safewater/hotline. Information on bottled water can be obtained from the U.S. Food and Drug Administration.

#### Water Conservation

You can play a role in conserving water and saving yourself money in the process by becoming conscious of the amount of water your household is using and by looking for ways to use less whenever you can. It is not hard to conserve water. Here are a few tips:

- Automatic dishwashers use 15 gallons for every cycle, regardless of how many dishes are loaded. So get a run for your money and load it to capacity.
- Turn off the tap when brushing your teeth.
- Check every faucet in your home for leaks. Just a slow drip can waste 15 to 20 gallons a day. Fix it and you can save almost 6,000 gallons per year.
- Check your toilets for leaks by putting a few drops of food coloring in the tank. Watch for a few minutes to see if the color shows up in the bowl. It is not uncommon to lose up to 100 gallons a day from an invisible toilet leak. Fix it and you save more than 30,000 gallons a year.
- Use your water meter to detect hidden leaks. Simply turn off all taps and water using appliances. Then check the meter after 15 minutes. If it moved, you have a leak.

## Lead in Home Plumbing

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. We are responsible for providing high-quality drinking water, but cannot control the variety of materials used in plumbing components. When your water has

been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline or at www.epa. gov/safewater/lead.

#### Benefits of Chlorination

Disinfection, a chemical process used to control disease-causing microorganisms by killing or inactivating them, is unquestionably the most important step in drinking water treatment. By far, the most common method of disinfection in North America is chlorination.

Before communities began routinely treating drinking water with chlorine (starting with Chicago and Jersey City in 1908), cholera, typhoid fever, dysentery, and hepatitis A killed thousands of U.S. residents annually. Drinking water chlorination and filtration have helped to virtually eliminate these diseases in the U.S. Significant strides in public health are directly linked to the adoption of drinking water chlorination. In fact, the filtration of drinking water plus the use of chlorine is probably the most significant public health advancement in human history.

#### How chlorination works:

- Potent Germicide Reduction in the level of many disease-causing microorganisms in drinking water to almost immeasurable levels.
- Taste and Odor Reduction of many disagreeable tastes and odors like foul-smelling algae secretions, sulfides, and odors from decaying vegetation.
- Biological Growth Elimination of slime bacteria, molds, and algae that commonly grow in water supply reservoirs, on the walls of water mains, and in storage tanks.
- Chemical Removal of hydrogen sulfide (which has a rotten egg odor), ammonia, and other nitrogenous compounds that have unpleasant tastes and hinder disinfection. It also helps to remove iron and manganese from raw water.

# QUESTIONS?

For more information about this report, or for any questions relating to your drinking water, please call George Sedich, Water Department Superintendent, at (928) 692-3136.

#### Important Health Information

Some people may be more vulnerable to contaminants in drinking water than the general population. Immunocompromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants may be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. The U.S. EPA/CDC (Centers for Disease Control and Prevention) guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the Safe Drinking Water Hotline at (800) 426-4791 or http://water.epa.gov/drink/hotline.

## When was drinking water first regulated?

The Safe Drinking Water Act (SDWA) of 1974 represents the first time that public drinking water supplies were protected on a federal (national) level in the U.S. Amendments were made to the SDWA in 1986 and 1996.

### How much water do we use every day?

The average person in the U.S. uses 80 to 100 gallons of water each day. (During medieval times, a person used only 5 gallons per day.) It takes 2 gallons to brush your teeth, 2 to 7 gallons to flush a toilet, and 25 to 50 gallons to take a shower.

#### When was chlorine first used in the U.S.?

In 1908, Jersey City, New Jersey, and Chicago, Illinois, were the first water supplies to be chlorinated in the U.S.

## How much water is in our atmosphere?

Forty trillion gallons of water are carried in the atmosphere across the U.S. each day.

#### How much water is in our bodies?

Water makes up almost two-thirds of the human body and 70 percent of the brain.

## How long can a person go without water?

Although a person can live without food for more than a month, a person can live without water for only approximately one week.

## Is tap water cheaper than soda?

Yes! You can refill an 8 oz. glass of tap water approximately 15,000 times for the same cost as a six-pack of soda pop. And water has no sugar or caffeine.

## Sampling Results

During the past year we have taken hundreds of water samples in order to determine the presence of any radioactive, biological, inorganic, volatile organic or synthetic organic contaminants. The table below shows only those contaminants that were detected in the water. The state requires us to monitor for certain substances less often than once per year, because the concentrations of these substances do not change frequently. In these cases, the most recent sample data are included, along with the year in which the sample was taken.

We participated in the 3rd stage of the EPA's Unregulated Contaminant Monitoring Regulation (UCMR3) program by performing additional tests on our drinking water. UCMR3 benefits the environment and public health by providing the EPA with data on the occurrence of contaminants suspected to be in drinking water, in order to determine if EPA needs to introduce new regulatory standards to improve drinking water quality.

REGULATED SUBSTA	NCES														
Radiological															
SUBSTANCE (UNIT OF MEASURE)		YEAR MC SAMPLED [MRD		MCLG [MRDLG]			NGE -HIGH	VIOLATIO	N TYF	TYPICAL SOURCE					
Alpha Emitters (pCi/L)		2012	15	0	0 4.9 2.		-7.2	No	Ero	rosion of	of natural deposits				
Combined Radium (pCi/L)		2012	5	0	0.3	NE	ND-0.6		Ere	Erosion of natur		al deposit	ts		
Microbiological															
SUBSTANCE (UNIT OF MEASURE)		YEAR SAMPLED	MCL [MRDL]	MCLG [MRDLG]			PLES	PLES ABSENT A PRESEN				TION TYPICAL SOURCE			
Total Coliform Bacteria		2014	0	0	1			P		No		Naturally present in the environment			
Disinfectants															
SUBSTANCE (UNIT OF MEASURE)		YEAR MCL SAMPLED [MRDL]		MCLG [MRDLG]	RUNNING ANNU AVERAGE RAA							TION TYPICAL SOURCE			
Chlorine (ppm)	Chlorine (ppm) 2		4 4		0.1			0.052-0		48 No		Water additive used to control microbes			
Disinfection by-products															
SUBSTANCE (UNIT OF MEASURE)		YEAR SAMPLED [		MCL [MRDL]	MCLG [MRDLG]		HIGHES ETECTE			E OF ALL LES (L-H)			Т	YPICAL SOURCE	
Haloacetic [HAA5] (ppb)			2014	60	60 NA		2.3	1.3		-2.3		No	I	Byproduct of drinking water disinfection	
Total Trihalomethanes [TTHMs		s] (ppb) 2014		80	NA		4.1		1.4	1.4-4.1		No		Byproduct of drinking water disinfection	
Lead and Copper															
SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED AL ALG			90TH PERCENTILE AND NUM OF SAMPLES OVER THE A						VIOLATION TYPIC		AL	SOURCE		
Copper (ppm)	2012	1.3	1.3		0.14	/0		ND-0		1	No	Corrosion of household plumbing systems;erosion of natural deposits			
Lead (ppb)	2012	15	0		0.005	5/1	2		27	1	No	Corro	osio	on of household plumbing systems;erosion of natural deposits	
Inorganic Chemicals (IOC)															
SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLEI	MCL D [MRDL	MCLG [MRDLG		OR HIGHEST DETECTED	LEVEL	RANGE OF ALL SAMPLES (L-H)		VIOLA	VIOLATION TYI		TYPICAL SOURCE			
Arsenic (ppb)	2012	10	0		3.3		2.8-3.7		N		crosion of natural deposits; Runoff from orchards; Runoff from glass and electronic roduction wastes				
Barium (ppm)	2012	2	2		0.01		0.01	0.01-0.02		lo I	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposi		ng wastes; Discharge from metal refineries; Erosion of natural deposits		
Chromium (ppb)	2012	100	100		0.05		0.0	0.04-0.07		lo I	Discharge from steel and pulp mills; Erosion of natural deposits			eel and pulp mills; Erosion of natural deposits	
Fluoride (ppm)	2012	4	4		0.6	0.6		05-1.3		Jo E	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories				
Nitrate (ppm)	2014	10	10		4.21		1.31-4.21		N	lo F	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of		lizer use; leaching from septic tanks, sewage; erosion of natural deposits		

UNREGULATED SUBSTANCES										
SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AMOUNT DETECTED	RANGE LOW-HIGH	TYPICAL SOURCE						
Sodium (ppm)	2012	26.3	23.3–29.4	NA						

UNREGULATED CONTAMINANT MONITORING REGULATION 3 (UCMR3)									
SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AMOUNT DETECTED	RANGE LOW-HIGH	TYPICAL SOURCE					
Hexavalent Chromium (ppb)	2014	2014 25.5		Naturally present in the environment					
Molybdenum (ppb)	2014	2.4	2.0-2.8	Naturally present in the environment					
Strontium (ppb)	2014	582	410–710	Naturally present in the environment					
Total Chromium (ppb)	2014	23.6	3.6–57	Erosion of natural deposits.					
Vanadium (ppb)	2014	14.2	10–19	Naturally present in the environment					

# **Definitions**

**AL** (Action level): The concentration of a contaminant that, if exceeded, triggers treatment or other requirements that a community water system shall follow.

MCL (Maximum Contaminant Level): The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.

#### MCLG (Maximum Contaminant Level Goal):

The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.

NA: Not applicable

**ND** (**Not detected**): Indicates that the substance was not found by laboratory analysis.

**pCi/L** (**picocuries per liter**): A measure of radioactivity.

**ppb** (parts per billion): One part substance per billion parts water (or micrograms per liter).

**ppm** (parts per million): One part substance per million parts water (or milligrams per liter).